

What is claimed is:

1. A digital amblyopia image aid system provided with individually adjustable function comprises at least:

an image input apparatus, used to receive the external original image, and transmit thereof to image processing apparatus for processing;

an image processing apparatus, mainly used to quantify the patient's vision degeneration degree first, and simulate the image in the patient's eyes,

to determine the image contrast intensification parameter, then through the intensification parameter, instantly make image contrast intensification process for the basic image and the image boundary of the original image, thereby obtain the actual image suitable for the vision of individual patient ;and

an image output apparatus, used to display the practical image after enhancing process.

2. The digital amblyopia image aid system provided with individually adjustable function of claim 1, wherein the said image input apparatus consists of a preset system and an image processing kernel.

3. The digital amblyopia image aid system provided with individually adjustable function of claim 2, wherein the said preset system is responsible for quantifying the patient's vision degradation degree and simulating the image in the patient's eyes to determine the image contrast intensification parameter.

4. The digital amblyopia image aid system provided with individually adjustable function of claim 2, wherein the said preset system uses the correlation coefficient of mutual, combined operation to compare the image information before and after simulation under different frequency to determine the image contrast intensification parameter.

5. The digital amblyopia image aid system provided with individually adjustable function of claim 2, wherein the said preset system adjusts on the vision individually for amblyopia patient, which via linear and non-linear method to simulate the image seen by the vision disabled to determine the image contrast intensification parameter, and bases on the image enhancement effect required for the users to adjust the image contrast intensification

parameter suitable for oneself to enhance the image contrast information and provide optimum image effect.

5 6. The digital amblyopia image aid system provided with individually adjustable function of claim 5, wherein the linear simulation method is used to simulate the image information that the retinitis pigmentosa patient can identify.

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7. The digital amblyopia image aid system provided with individually adjustable function of claim 5, wherein the non-linear simulation method is used to simulate the image information that the macular degeneration patient can identify.

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8. The digital amblyopia image aid system provided with individually adjustable function of claim 2, wherein the said image processing center comprises a basic image processing unit and an image contrast intensification processing unit.

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9. The digital amblyopia image aid system provided with individually adjustable function of claim 8, wherein the said basic image processing unit is the

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reference intensification parameter, which adjusts the original image for magnification, brightness, high light, image storage and the front and back ground color, etc.

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10. The digital amblyopia image aid system provided with individually adjustable function of claim 8, wherein the said image contrast intensification processing unit enhances the image boundary using the intensification parameter as the base of image contrast intensification.

11. The digital amblyopia image aid system provided with individually adjustable function of claim 10, wherein the said image processing center uses the change for the local luminance mean and the local contrast of the image information, and then multiply which individually by the intensification parameter value of the preset operation, to achieve the image contrast intensification effect.

12. The digital amblyopia image aid system provided with individually adjustable function of claim 1, wherein the said image input apparatus is an electronic magnifier, by which the external image

can be obtained instantly.

13. The digital amblyopia image aid system provided  
with individually adjustable function of claim 1,  
5 wherein the said image input apparatus is an  
internet server end, by which the external image  
can be obtained instantly.

14. The digital amblyopia image aid system provided  
10 with individually adjustable function of claim 1,  
wherein the said image input apparatus is a scanner,  
by which the external image can be obtained  
instantly.

15 15. The digital amblyopia image aid system provided  
with individually adjustable function of claim 14,  
wherein the said scanner is a hand-type micro  
camera.

20 16. The digital amblyopia image aid system provided  
with individually adjustable function of claim 14,  
wherein the said scanner is a desktop scanner.

17. The digital amblyopia image aid system provided  
25 with individually adjustable function of claim 1,

wherein the said image output apparatus is a computer reading platform, which is used to display the image after processing.

5 18. The digital amblyopia image aid system provided with individually adjustable function of claim 1, wherein the said image output apparatus is equipped with control system, which changes the reading platform to adopt X-Y axis movable platform, which  
10 can be controlled to move by using the direction key control platform.

19. The digital amblyopia image aid system provided with individually adjustable function of claim 1,  
15 wherein the said image output apparatus is a goggle mounted display (GMD), which is used to display the image after processing.

20. The digital amblyopia image aid system provided  
20 with individually adjustable function of claim 1, wherein through converting the communication protocol client end into weblization, there in no need for additional setup program, the client end can use explorer to obtain the image information  
25 of the server end, and the image enhancement process

can made according to the image contrast intensification parameter required for individual person, thereby the inconvenience of program setup thereof can be simplified, and the internet instruction reading effect with cross-platform can  
5 be achieved.

21. The digital amblyopia image aid system provided with individually adjustable function of claim 15,  
10 wherein the said hand-type scanner uses digital signal processor (DSP) and reset the software part into DSP program in the electronic camera system to meet the system requirement.